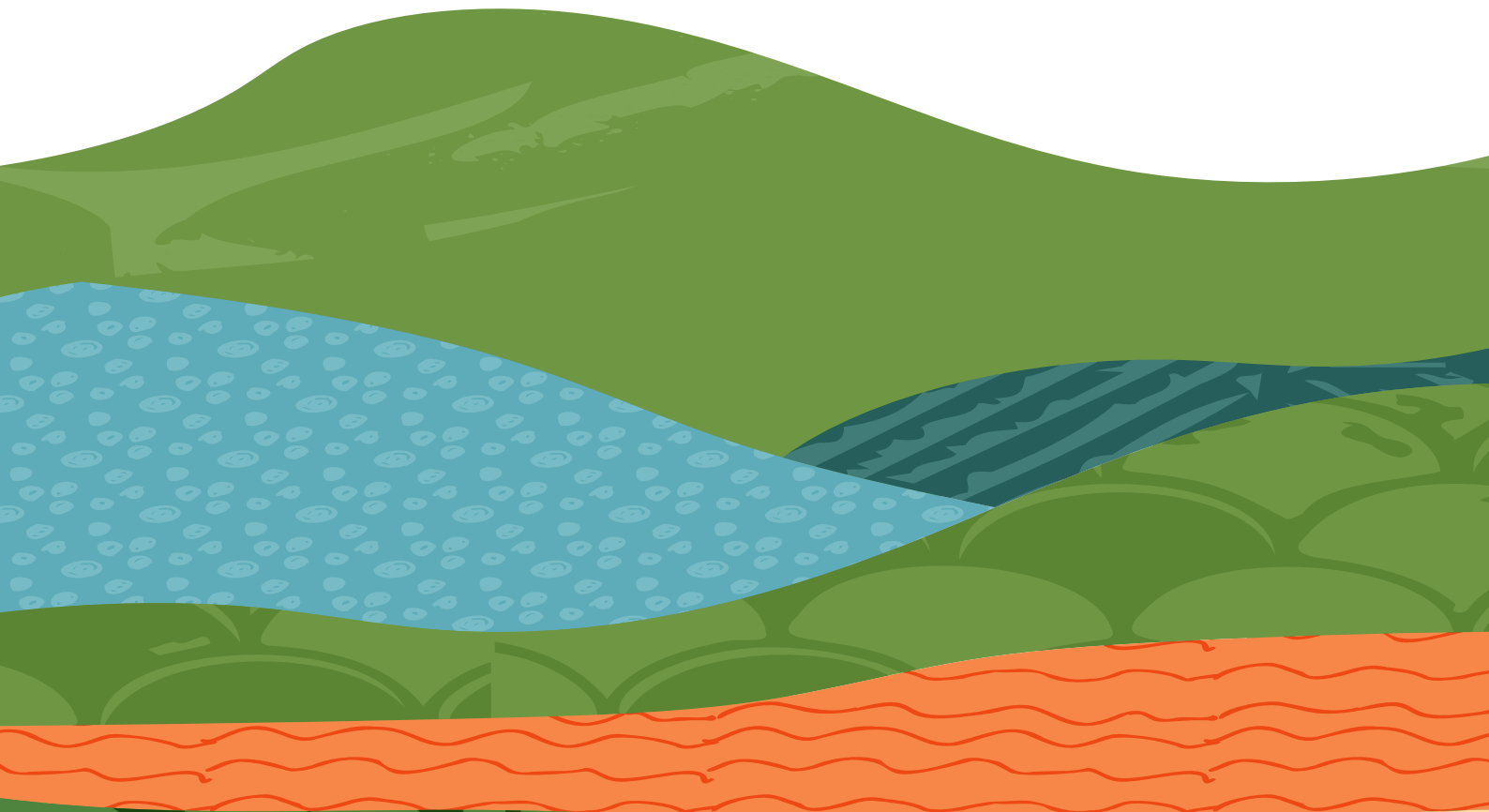




# **The Joint Water-Agriculture Ministerial Council**

## **Implementation of priority activities from the Guidelines on Improved Water Allocation for Agriculture action plans at pilot sites**

Draft for discussion



Food and Agriculture  
Organization of the  
United Nations



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# Disclaimer

The report on the "Implementation of priority activities from the Guidelines on Improved Water Allocation for Agriculture action plans at pilot sites" was prepared and revised by the Regional Office for the Near East and North Africa of the Food and Agriculture Organization (FAO) to support the Joint Technical Secretariat of the Joint Ministerial Council (composed of the Technical Secretariat of the Arab Water Ministerial Council and the Arab Organization for Agricultural Development) in implementing the recommendation of the High-Level Joint Water-Agriculture Technical Committee emanating from its meeting held on 18 October 2022 on the Voluntary Implementation of the Guidelines on Improved Water Allocation for Agriculture.

# 1. Main activities in July-September 2023

This report discusses the main activities under the water allocation pilots undertaken under the FAO Regional Water Scarcity Initiative in July-September 2023. The report discusses the main activities (section 1), the main lessons for water allocation (section 2), the main lessons for stakeholder engagement at national level (section 3) and at pilot area level (section 4), the common themes (section 5) and the planned activities for the next quarter (section 6).

In its first meeting held in October 2019, the High-Level Joint Water-Agriculture Technical Committee (HLJTC) requested the Joint Technical Secretariat of the Joint Water-Agriculture Ministerial Council and partner organizations, FAO and UNESCWA, to assist in developing Guidelines on Improved Water Allocation for Agriculture. As a result, FAO and UNESCWA, in collaboration with the Joint Technical Secretariat, established a working group to prepare the requested Guidelines. The Guidelines were presented and discussed during the second and third meetings of the HLJTC and endorsed during the second Joint Water-Agriculture Ministerial Meeting on 27th January 2022.

In addition to the endorsement of the Guidelines, the resolution of the Joint Ministerial Council states the voluntary implementation of the Guidelines at country level and invites FAO and ESCWA to support this process through the implementation of pilot projects.

Following this resolution, four countries officially expressed their interest in applying the Guidelines at a pilot scale: Tunisia, Egypt, Jordan, and Palestine.

At this stage preparations are made to prepare the implementation of priority

activities from the action plans during 2023. This is supported by a team of an international expert and four national experts in the four self-selected countries ;

In the current period preparations were made for the implementation of the pilot programmes. The activities consisted of :

- Data collection for the pilot area from primary and secondary use
- Engagement of stakeholders at national and pilot area level
- Assessment of bottlenecks and opportunities
- Connection with other initiatives
- Communication the narrative for the pilots

The country programs are discussed bullet-wise below :

## **Tunisia:**

- Analysis of the current situation of Nebhana system :
- Collect available data : previous studies are collected (Prospective study of the Nebhana system( ICAPT project), WEAP model for Nebhana system (AGIRE project), Participatory diagnosis in the downstream irrigated areas of Nebhana, Sousse and Kairouan (ICAPT project)
- First assessment of water productivity in the region
- First assessment of water productivity in the region (ongoing)
- A field survey was carried out to complete the missing information on the irrigated areas of Sousse and Monastir. Whereas the previous studies focused on the



Kairouan region, the irrigated areas of Sousse and Monastir were visited to get a better understanding of the irrigated areas.

- Meeting with the technical director of the Water User Association "Balaoum" in Sidi Bou Ali, Sousse, Tunisia.

**Example of an irrigation voucher for water user association "Balaoum"**



**Egypt :**

- Review of previous studies and reports on the pilot area and start of dialogue.
- Assessment of water allocation practices in the pilot area.
- Introduction of alternative water saving irrigation techniques – in particular raised-bed farming – and assessment of impact on improved water allocation.

**Jordan :**

- The emphasis has been on creating the information base to review the water allocation system as it is now with an eye to discuss improvements :
  - » The current water allocation system is being better described. The daily weather data for three stations near the point areas have been collected for the period January 1980-December 2021 for precipitation, maximum temperature, minimum temperature average daily temperature, sunshine hours, wind speed, relative humidity and other weather data weather. These data are required to estimate net irrigation demand for each crops.

- » Gathering GIS data and Shape file, farm coordinate, historical water supply. These data are needed for water allocation model such as existing cropping pattern monthly cropping pattern, monthly water demand, water supply and non-revenue water, GIS map.
- » Collecting official data of current water allocations, actual water delivery to each farm, Water Consumption in the Pilot Area.

#### **Palestine :**

- Regular meetings are held in the pilot area
- WUA being established
- Draft terms-of-references are under preparation for some main activities with involvement of various stakeholders :
  - » **Actionable review of existing laws, by-laws, regulations and policies :**  
There is a need to revise and modify what needed to solve the problem of inequitable access to water due to inconsistencies between water policy

and the fostering and growth of export-oriented agriculture, legal pluralism in water tenure and institutional fragmentation in water domain and challenges in law enforcement and expansion of well drilling and pumping. The review will cover all existing laws, by-laws, regulations and policies that are related to water allocation and endorse recommendations for enforcements. The review will be action oriented and lead to an action plan

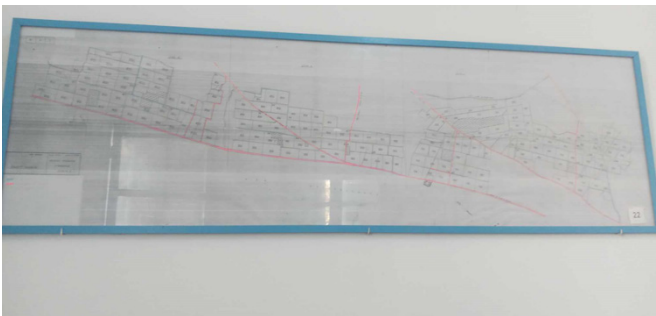
- » **Organize awareness campaigns.**  
The draft concept for awareness campaigns and Tinder are under preparation. Awareness campaigns will be organized that target all stakeholders to help farmers to determine: how the economic value of water (\$/m<sup>3</sup>/crop) will be increased? what is the suitable cropping patterns for the pilot area? how to optimize use of water in irrigation? how to improve irrigation systems? The awareness campaigns will be scaled up for the whole country.



## 2. Main findings with respect to improved water allocation

### Tunisia:

#### Irrigation system in Sousse



- There are no clear boundaries for irrigated areas: in most irrigated areas the boundaries are not respected.
  - Water user associations have many problems: the vulnerable situation of the workers, the lack of farmers representation in these bodies, the lack of local democracy.
  - The national level (Ministry HQs) doesn't have a clear idea of how water is allocated at the level of the governorates and how the water associations work. National water allocation differs from local water allocation.
  - The information on land use at the governorates level is different from the information reported at the national level.
  - The current allocation of water does not take into account the internal water resources of each governorate (groundwater, water reuse) and existing water allocation regime could be improved.
- Egypt:**
- Water allocation at the higher levels (Mesqua and Branch Canals) is exclusively carried out by the district engineer (who is supported by an operator (Bahhar)). Based on explanations by the district engineer, allocation is not based on flow measurements but rather on water levels. Flows are not measured and not known. Water allocation to branch canals is based on previous experience and judgement and records and maps are made manually,
  - Water allocation to pump stations along the different branch canals is carried out by the district engineer during the rotation period based on judgement and may be following a fire-fighting approach. It is very unlikely that equitable water allocation is possible with such an approach.
  - Water allocation at the lower level (Marwa) is generally smooth and farmers are able to manage between themselves and resolve conflicts.



- There are main improvements in water allocation – such as the saving of water by using raised bed. This however needs to be imbedded in changed water allocations within command areas and supported by harvesting machinery that can harvest from the raised beds – see : <https://thewaterchannel.tv/thewaterblog/easy-ways-out-of-egypts-water-crisis/>
- There is definitely room for improvement, and a greater role could be played by the WUAs at the different levels if given the chance, responsibility and authority. The recently issued new water law, as well as a ministerial order issued last month open the door for more user participation.

### Flood irrigated rice fields in Egypt



### Jordan :

- The illegal use and illegal connection to water distribution system and KAC in the northern Jordan Valley is estimated to be the largest contributor to water losses. Regulations and associated compliance and enforcement actions need to be strengthened to minimize vandalism and illegal water use across the system, in relation to the significance of empowering JVA staff to improve their ability to monitor and control illegal use.
- Improving the irrigation systems' monitoring to identify high loss areas and determine the causes of such losses. Then, asset management improvements must become routine to carry out effective and ongoing maintenance to repair and prevent leakage and other losses.
- Updating water allocation plans for irrigation systems in the Jordan Valley and steadily convert them into continuous supply systems, which allows for higher water productivity, better management, more effective leak detection, and improved water supply services.
- It is necessary to improve the monitoring system of surface water (quantity, quality, dams, KAC), maintenance of the monitoring system, sediment evaluation and management. The SCADA system enables centralized operation, but also has issues with several unworkable sensors and significant measurement uncertainties.



## Palestine

- Capture of rain run-off in upper catchment not done systematically
- Groundwater management not organized
- unauthorized well drilling affects the viability of the springs
- Scope for waste water reuse upon improved urban waste water treatment in Nablus

### One of Al Farah Springs in Palestine



## 3. Main results with respect to engagement of stakeholders at national level:

In particular in Tunisia and Egypt much progress was made on this front, engaging where possible relatively young potentials from the central institutes.

### Tunisia :

- The field mission was carried out by a group of young engineers from the Ministry of Agriculture (a representative of the BPEH (Hydraulic Balance and Planning Office), which is responsible for intersectoral water allocation, a representative of the DGGREE (General Directorate of Rural Engineering and Water Exploitation), which is responsible for irrigated perimeters and water user associations, and a representative of the DGP (General Directorate of Agricultural Production), which is responsible for cropping patterns and crop production).
- The ministerial group which made the field visit to Sousse and Monastir took part to a workshop on the use of WAPOR data as part of the WAPOR 2 project. They now have an idea of how WAPOR works and they will try to use it to make WAPOR analyses for the irrigated area.

### Egypt:

National level stakeholders were engaged in the process through the National team members representing the Ministry of Water Resources and Irrigation and the Ministry of Agriculture.

The members showed high interest during the meetings, participated in discussions, and took notes of findings and opinions of

stakeholders. This is expected to have a fruitful return on taking the findings to higher levels and to provide feedback for decision makers.

### Palestine :

- National workshop is being prepared. The workshop will be organized during November 2023 and the costs will be covered by PWA and MoA
- The preparatory workshop will aim to define the role of each stakeholder and to define the main indicators which will be assessed before and after implementation of the proposed interventions. The preparatory workshop will also go back to the Quick Scan and identify the early implementation/quick win activities in improved water allocation.
- Two steering committees will be formed during the workshop: National Steering Committee for water allocation and a Project Steering Committee for the proposed project. The National Steering Committee will be responsible for scaling up the project and shall represent all key stakeholders. The Project Steering Committee for the proposed project will be from all stakeholders to supervise the implementation of the proposed interventions of the project and should try to extend its activities after the end of the project. Its presence after the end of the project should be considered as a vital role for a sustainable water allocation in the area. PWA and MoA will be members for both steering committees.



## 4. Main results with respect to engagement of stakeholders at pilot area level:

### Tunisia :

- Meetings with CRDA officials (Regional Commissariat for Agricultural Development) in Sousse and Monastir
- Meetings with water user associations in Sousse and Monastir

### Egypt:

- Discussions with stakeholders were interesting and stimulating. However, it is important to keep track of their opinions and suggestions, and to study and assess possibility and feasibility to be able to come back with answers. Otherwise, the stakeholders might get disappointed and lose interest. Box 1 gives highlight from the field meetings.

### Explanation of water allocation process by District Engineer, Egypt



### Box 1: Impressions from field assessment in Egypt

#### Meeting in the Kafr EL-Sheikh Irrigation Directorate

Meeting with district engineers and irrigation advisory service engineers in the office of the Deputy Minister of the Main Irrigation Directorate, Kafr EL-Sheikh. The irrigation scheduling and water allocation procedures and tasks carried out by the district engineers was discussed. During the meeting, we requested and acquired information about existing irrigation pump stations and drainage water reuse pump stations within the pilot area. We discussed with the Engineers of the Irrigation Advisory Services training and capacity building provided to WUAs as well as training needs in the future. We also discussed with the district engineer measurement requirements for better water management and locations where measuring equipment would be required. The following are photos of the meetings. The reliance of district engineers on hand-drawn maps and tables is notable.

#### Meeting with two WUAs of pump stations on Mekheizen Canal

Meeting was held with a WUA on Mekheizen Canal. Discussions were held regarding their methodology in allocating water to the different users of the mesqua. They indicated relatively little problems regarding water allocation, fees collection and maintenance. However, they complained about the need to use drainage water during water shortages which is heavily polluted and leads to deterioration in yield, crop quality and also land degradation.

#### Meeting with WUA of a pump station on Abu Mustafa Canal (September 6, 2023)

Another meeting was held with members of a WUA on Abu Mustafa Canal. Water allocation, fees collection and maintenance were also discussed, and generally positive feedback was provided. However, they complained about water quality of drainage water as well as problems of solid wastes reaching the canal (possibly by upstream users). They requested an intervention to supply them with drainage water from another drain, which they say is less polluted than the drain they are presently accessing.

#### Meeting with a Branch Canal (BC) WUA of Mekheizen and Abu Mustafa Canals (September 6, 2023)

A meeting was held with the BCWUA. The BCWUA consists of 13 members representing some 90 improved pump stations on Abu Mustafa and Mekheizen Canals. Discussions were held regarding how water allocation is carried out at this level of water management. They reported that they have no role in water allocation, nor do they collect funds or participate in maintenance or operational activities. They merely collect and convey complains of water users to the authorities. Complaints they voiced during the meeting were mainly suggestions of providing access to less polluted drains at some locations. Another suggestion was made regarding changing the rotation method to continuous (but less) flow for the pilot area.



### Meeting with WUA members and water users of an improved pump station on Mekheizen



#### Jordan:

- Postponed to October 2023

#### Palestine :

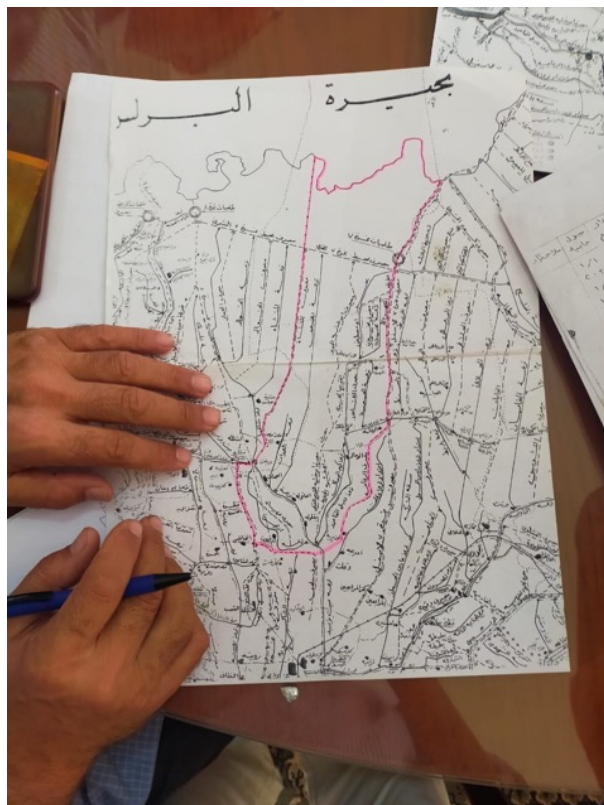
- Regular discussion in Al Farah Watershed.

## 5. Common themes

We identified a number of common themes that may be covered as common themes in the next phase.

<b>Inadequate functioning of WUAs</b>	Lack of farmer representation, vulnerable situation of workers (Tunisia)  Limited roles at branch level and hence in water allocation larger role possible (Egypt)  Non-effective (Palestine)
<b>Inadequate or absent systems of water allocation</b>	Groundwater not taken into account (Tunisia)  Informal and outdated water allocation (Egypt)  Sub-optimal water allocations (Jordan)
<b>Failing enforcement</b>	Illegal diversion being main source of water loss, going largely unnoticed (Jordan)  No marked irrigation boundaries (Tunisia)
<b>Missing groundwater management</b>	No enforced regulation (Jordan, Palestine, Tunisia)

Hand-written map of command area in Egypt



## 6. Activities next months (October-December)

Below are the activities proposed in the next three months

### General :

- Finalize workplans
- Presentation at main meetings
- Build up narratives on the pilots (already started)
- Undertake WAPOR trend analysis – completed for Egypt

### Tunisia

- Analyzing the experience of national and local water allocation
- Analyzing the performance of water user associations (GDA's)

### Palestine

- A preparatory workshop will be organized on November 2023.
- The TOR for actionable review of existing laws, by-laws, regulations and policies will be finalized.
- The concept for organizing awareness campaigns will be finalized.

- Establishment of Water Users Associations (WUA's) will be continued.

### Egypt

- Some improvement ideas were voiced by the different WUAs. These ideas need to be taken seriously but require further support by experts to guide decision making possibly supported by water quality analysis, flow measurements, remote sensing assessment, institutional analysis and computer modelling.
- Compile, process and study suggestions by farmers and WUAs made during the meetings. Discuss these suggestions with ministry officials at the different levels (central and decentral).
- Return to stakeholders with results of discussions and assessments

### Jordan

- Engagement of Stakeholders to ensure participation.
- Complete water allocation analysis.





